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Pasture and grazing management in small rural properties in Rondonópolis

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Abstract. As pasture is the main source of food for cattle, it is necessary to promote actions that guide rural producers in good practices for forage production. Thus, the objective was, through the exchange of experiences, to train technicians and producers from Rondonópolis in the management of pasture and grazing, valuing dialog and the collective construction of solutions to the challenges of each property. To date, four rural properties have been visited, three lectures have been held, and guidance has been promoted through social networks. Weekly visits were made to Rondon Haras, in addition to other visits to Terra Nova Farm, Bom Pai Farm and Haras Amoroso. As a result, a plan adapted to each reality was prepared, including monitoring the height of the pasture, estimating the forage mass, evaluating the degree of degradation, identifying weeds and recommending fertilization for implementation and maintenance. Pasture degradation is a serious problem on property, which demands recovery and renewal planning for pastures. To assist in the discussion of strategies, three lectures were held with a total of 85 people, which strengthened the exchange of knowledge and fostered new partnerships. It is concluded that extension actions have proven effective in promoting improvements in production systems, encouraging sustainable property management and forming citizens who are more aware of and committed to responsible agricultural practices, in addition to achieving sustainable development goals, including zero hunger and sustainable agriculture, decent work and economic growth, and action against global climate change.
Keywords: Technical assistance, Producer training, Participatory management.

Introduction

Pasture degradation is one of the main challenges facing Brazilian livestock and is often a consequence of inadequate pasture and grazing management practices. This is because forages are admitted as crops that require less technology and care, which is not true.

In view of this, there has been a sharp and continuous decline in the productive capacity of pasture, which has productive, economic and social impacts. For the producer, the practical signs are the decrease in the number of animals that the area supports, the emergence of bare soil and the increase in weeds.

In Rondonópolis, where this project is being developed, many producers face losses due to the absence of simple adjustments in management, such as monitoring forage height and food planning for the dry season. These adjustments do not require large economic investments, which are accessible to diverse producers. According to Cabral et al. (2024), pasture management strategies have a direct effect on the zootechnical results of animals, especially under conditions of drought and structural limitations.

In this context, university extension plays a strategic role in bringing the university closer to rural society, as it is fundamental for the dialogical interaction between rural producers, technicians, researchers and students. In view of this, the project aimed to train students, teachers/researchers, rural producers and technicians linked to small properties in Rondonópolis on pasture and grazing management, aiming to improve the productive indices of local properties.

Methodology

The project has been developed since April 2025, and the activities were carried out on four properties in the region of Rondonópolis and surrounding cities, with specific actions at each location: at the Bom Pai Farm (Itiquira), near the Birro community, soil sampling, analysis of pasture degradation and fertilization recommendations were carried out; at the Terra Nova Farm (Guiratinga), analysis of pasture degradation, soil sampling and interpretation of the analyses; at Rondon Haras (Rondonópolis), pasture height monitoring, forage planning and weed surveys were carried out; and at Haras Amoroso (Rondonópolis), soil sampling and interpretation of the analyses were carried out to recommend fertilization of the hay field. The height of the forage canopy was measured at 100 points per pasture. The interpretation of the soil analyses and the fertilization recommendation were carried out according to Martha Junior et al. (2007). Weed identification was carried out according to Fontes et al. (2003).

In addition, three lectures were held at the "Forage Talk" event: "Grazing management: what truly works" with Nathalia Garcia, "Hybrid forage as an intensification tool" with Caio Moretti and "Fertilizing the pasture makes cattle gain more weight" with Carlos Eduardo Cabral. At the same time, weekly meetings were held with the students of the Study Group on Pasture and Grazing (GEPASTO), who discussed practical topics related to the management of pasture and grazing of the properties linked to the project, which involved food planning, strategies and effects of fertilization, and intercropping between corn and grass.

Results and discussion

Pasture degradation is a frequent and severe problem in the region, as 75% of the properties have some degraded pasture, which results in productive compromise. The Terra Nova Farm has serious structural access difficulties, which makes it difficult for inputs, such as fertilizers, to arrive. Thus, the absence of fertilization associated with proper grazing management has led to the degradation of some pastures.

At Sítio Bom Pai, in 2024, two pastures were renewed, which resulted in an increase in the stocking rate in the other pastures in the previous year, accelerating the degradation process. It is intended to return to this property as soon as the rains become regular to verify the potential for pasture regrowth and, thus, define the strategy for recovery or renewal of the pasture, in accordance with the soil analysis (Table 1).

Table 1. Project-assisted chemical and particle size analysis of properties

Local	ph	P	K	Ca	Mg	Al+H	CTC	V	m	Clay	Silte	Sand
	CaCl2	mg dm³		cmolc dm³				%		g kg¹		
HA1	4,6	1,8	41	1,2	0,8	5,8	8,0	26,7	15,8	580	125	295
SBP2	4,6	3,0	42	0,8	0,5	3,8	5,2	26,5	12,7	155	100	745
FTN3	4,0	2,2	33	0,2	0,1	4,9	5,3	7,3	73,8	110	50	840

1HA: Haras Amoroso; 2SBP: Sítio Bom Pai; 3FTN: Fazenda Terra Nova

At Haras Amoroso, the beginning of the hayfield degradation process was identified, marked by the presence of monocot weeds, known by producers as "narrow leaves". These plants are difficult to control, as there are no selective herbicides capable of eliminating them without causing damage to forages. Another alternative is the use of nitrogen fertilization at the beginning of the rainy season, which stimulates the vigorous growth of the forage and favors the natural suppression of invasive plants. In addition, the application of limestone, potassium fertilizer and phosphate was indicated since hay harvest promotes high export of nutrients from the soil, a situation confirmed by chemical analysis (Table 1).

Haras Rondon was the only property in which pasture degradation was not identified; therefore, few weeds were present. This is the result of more appropriate grazing management strategies, since the heights at which the pastures are maintained are in accordance with the ecophysiology of the grass (Table 2), which requires heights of 20 to 35 cm (Costa; Queiroz, 2017).

Moreover, the events of the "Forage Chat" proved to be an effective integration tool. In all, 85 people participated in the three meetings, most of whom were UFR students but also had technicians, rural producers and other professionals (Table 3). A challenge for the members of the project is to seek strategies to increase the participation of producers and technicians. An extension action carried out in partnership with the graduate program (NutrirPasto) brought together an audience of 25 technicians and producers. For this purpose, the event was held on Friday night and Saturday during the day shift.

Table 2. Forage canopy height in the pastures of Haras Rondon

Months	Pasture 1	Pasture 2	Pasture 3
May	42	45	48
August	35	39	49

Table 3. Description of the public participating in the forage chat

Event	Students	Technical	Rural producers	Other	Total
1	29	2	1	2	34
2	24	1	0	0	26
3	24	1	0	0	25

Final considerations

These results indicate that pasture degradation is a widespread problem associated with low soil fertility, inadequate management and a lack of inputs. The strengthening of integrated management practices, such as adequate fertilization, soil correction and rational grazing management, contributes to increasing food production in a sustainable way, in line with SDG 2 (zero hunger and sustainable agriculture). Improving productive efficiency and technical knowledge through training events promotes decent work and economic growth (SDG 8). In addition, the adoption of conservation practices and sustainable management of soil and pasture contribute to the mitigation of emissions and adaptation to climate change, in line with SDG 13 (Action against Global Climate Change).

This approach made it possible to identify productive limitations, in addition to taking research demands directly to academic institutions. As a result, there is economic and social development for the region, maturation of the various actors involved, approximation of research to local demands and stimulation of innovation from the synergy between academic knowledge and practical knowledge.

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